

Indirect Fire Protection Capability Increment 2 (IFPC Inc 2)



From July to November 2024, the Army conducted an operational demonstration (Ops Demo) of the Indirect Fire Protection Capability Increment 2 (IFPC Inc 2) prototype system, which demonstrated some capability against its intended threat set. DOT&E published a classified IFPC Inc 2 Ops Demo report in April 2025. Additional testing is required to fully characterize the operational effectiveness, suitability, and survivability of IFPC Inc 2 prior to its combined Milestone C/full-rate production decision planned for 2QFY27.

SYSTEM DESCRIPTION

The IFPC Inc 2 system of systems is comprised of multiple subsystems and integrates with other existing systems to provide intended air defense capability.

The Army intends to employ IFPC Inc 2 as a platoon equipped with four IFPC launchers, an Army Integrated Air and Missile Defense (AIAMD) Engagement Operations Center (EOC), a Sentinel radar, and at least one AIAMD network relay. The Integrated Air and Missile Defense (IAMD) Battle Command

System (IBCS) software provides command and control through the EOC, communicating across an IAMD Fire Control Network (IFCN).

The IFPC launcher is a palletized platform that includes up to three All-Up-Round Magazines (AUR-Ms), a generator, a user interface for launcher emplacement and

initialization, and networking equipment to connect to an EOC. The IFPC launcher has an embedded GPS that provides positioning, navigation, and timing information to the launcher.

The launcher is in a container roll-out platform weapon system that enables it to be loaded, transported, and unloaded by the M-1075 Palletized Load System (PLS). The M-1076 PLS trailer/M-1074 PLS Crane are used to transport additional AUR-Ms and conduct magazine reloads. The AUR-M is intended to be self-contained and replaceable; AUR-Ms will not be reloaded with individual interceptors in the field.

The AIM-9X Block 2 Sidewinder is the first interceptor that will be integrated into the IFPC Inc 2 system. The AIM-9X is a supersonic guided missile that uses a passive infrared seeker for target acquisition and is currently employed by the Navy and Air Force as an air-to-air intercept capability. A missile data link provides target track updates to the IFPC Inc 2 interceptor while in flight.

The AN/MPQ-64 Sentinel is a rotating, X-band radar and is the primary fire control radar for the IFPC Inc 2 system. The Sentinel is designed to detect, track, identify, and classify air objects and provide radar track data to IBCS over the IFCN. The Sentinel A3 – a passive electronically scanned array radar – is currently the main fire control radar for the IFPC Inc 2 system of systems. However, the Sentinel A4 – an active electronically scanned array radar – is intended to replace the Sentinel A3 prior to IFPC Inc 2 IOT&E.

MISSION

The IFPC Inc 2 system is intended to provide 360-degree air and missile defense protection of fixed and semi-fixed assets at the corps and division levels, bridging the gap between tactical and strategic air and missile defense capabilities. IFPC Inc 2 is part of the AIAMD system-of-systems architecture and will contribute to the Army's layered air defense strategy. IFPC Inc 2 can be employed as an IFPC platoon or as part of a larger AIAMD task force that includes additional sensors and shooters, such as Patriot, operating on a single IFCN. IFPC Inc 2 is part of the Army's planned initial capability for the IAMD of Guam.

PROGRAM

In August 2021, the Army Acquisition Executive approved IFPC Inc 2 to proceed under the Middle Tier of Acquisition (MTA) rapid prototyping (RP) pathway. From July to November 2024, the Army conducted an Ops Demo of the IFPC Inc 2 system in order to fulfill the program's MTA RP operational testing requirement and to inform the program's transition to the MTA rapid fielding pathway in April 2025. The Army deployed IFPC Inc 2 prototypes to South Korea in FY25. IOT&E is planned for FY26, with a full-rate production decision planned for 2QFY27.

The Army has yet to determine the final IFPC Inc 2 configuration. As a result, the Ops Demo platoon configuration may not be representative of the configuration that is ultimately fielded.

» MAJOR CONTRACTORS

- Dynetics, a subsidiary of Leidos – Huntsville, Alabama (launcher)
- Raytheon, a subsidiary of RTX – Tucson, Arizona (AIM-9X Sidewinder missile)

TEST ADEQUACY

The Army Test and Evaluation Command (ATEC) conducted the IFPC Inc 2 Ops Demo at White Sands Missile Range, New Mexico, from July to November 2024. The unit under test was an IFPC platoon comprised of soldiers from the 1-51 Air Defense Artillery (ADA) battalion and the 3-43 ADA battalion. The Ops Demo was not fully conducted in accordance with the DOT&E-approved test plan; ATEC coordinated the deviations with DOT&E, who observed the testing. Consequently, the Ops Demo did not generate the expected operational effectiveness data but did provide some insight into suitability and survivability. DOT&E published a classified IFPC Inc 2 Ops Demo report in April 2025.

The hardware- and software-in-the-loop phase of test was intended to provide a large set of simulated IFPC engagements, but the AIM-9X flyout modeling and simulation used during the Ops Demo was not accredited for its intended use prior to test execution and failed to simulate a missile flyout for most of the commanded engagements. As a result, DOT&E did not analyze performance from the hardware- and software-in-the-loop phase, and DOT&E's basis for assessment of operational effectiveness

during the Ops Demo is limited to the two live missile flight tests.

All missile flight tests conducted during the Ops Demo were modified from the DOT&E-approved test plan, and one missile flight test with multiple targets was cancelled altogether. The unit executed only 22 of 52 planned launcher reload iterations due to the low reliability of the M-1074 reload vehicles. The Army assessed the cyber survivability of the launcher and AUR-M but did not assess cyber survivability of the system-of-systems for the IFPC platoon. The Army plans to conduct additional cyber testing during IOT&E.

PERFORMANCE

» EFFECTIVENESS

Soldiers operating the IFPC Inc 2 launcher demonstrated the ability to defeat a subset of threats the system is intended to protect against. Additional live testing is required to determine IFPC Inc 2 operational effectiveness against its complete threat set, including multiple threats, in an operationally realistic environment, including in a cyber- and electromagnetic-contested environment. Additional details can be found in the classified Ops Demo report published in April 2025.

» SUITABILITY

The IFPC Inc 2 launcher and AIAMD EOC experienced frequent communications faults during simulated missions, which impacted execution. Launcher reloads and preparations for movement and emplacement drills were conducted throughout

the Ops Demo using weight-representative inert magazines. M-1074 reload vehicles experienced two hydraulic leaks, rendering the cranes non-mission capable. The reload vehicle failures prevented the execution of 30 of the planned 52 reload drills. Additional details can be found in the classified Ops Demo report published in April 2025.

» SURVIVABILITY

DOT&E is unable to determine the survivability of IFPC Inc 2 in a cyber- and electromagnetic-contested environment, as the cyber testing conducted during the Ops Demo was not executed in a system-of-system construct and lacked operational realism. Additional details can be found in the classified Ops Demo report published in April 2025.

RECOMMENDATIONS

The Army should:

1. Conduct future live tests to characterize system performance against multiple threats in a cyber- and electromagnetic-contested environment.
2. Conduct cyber survivability testing in a system-of-systems construct.
3. Verify, validate, and accredit all relevant modeling and simulation tools before IFPC Inc 2 IOT&E begins.